

Histamine-free Diet

Eliminate the following foods/beverages:

Fish

Cheese

Sausages and processed meats (for example, hot dogs, salami, pepperoni, bacon)

Fruits/vegetables

- Sauerkraut, pickled cabbage
- Avocado
- Spinach
- Tomatoes (including ketchup)
- Eggplant

Alcoholic beverages

- Red wine
- White wine
- Sparkling wine (for example, champagne)
- Beer

Adapted from:

Maintz, Histamine and Histamine Metabolism, Am J Clin Nutr 2007

Wantke, Histamine-free diet: treatment of choice for histamine-induced food intolerance, Clin Exp All 1993

Michigan Allergy, Sinus & Asthma Specialists

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FOODS THAT CONTAIN HISTAMINE OR CAUSE THE BODY TO RELEASE HISTAMINE, INCLUDING FERMENTED FOODS

Histamine is a natural substance produced by the body and is also present in many foods. It is released by the body during times of stress and allergy.

What is Histamine?

In an allergic response, an allergen stimulates the release of antibodies, which attach themselves to mast cells. When histamine is released from the mast cells it may cause one or more of the following symptoms:

- Eyes to itch, burn, or become watery
- Nose to itch, sneeze, and produce more mucus
- Skin to itch, develop rashes or hives
- Sinuses to become congested and cause headaches
- Lungs to wheeze or have spasms
- Stomach to experience cramps and diarrhea

Histamine is a vasoactive amine which causes dilatation of the blood vessels (flushing, rash, itching) and increased mucus production (runny nose, productive cough), and bronchoconstriction (wheezing, cough). Because histamine is contained in almost all body tissues, especially the lungs, nose, sinuses, skin, intestinal mucosa and certain blood cells (mast cells, basophils), it is able to cause a wide variety of symptoms.

The release of histamine can be caused by almost any allergen. Examples include inhalant allergens (ragweed pollen, dust mite, cat dander), drugs (penicillin, sulfa, aspirin), stinging insect venoms, and foods (egg, wheat, milk, fish, etc).

Histamine in Foods

There are many foods that contain histamine or cause the body to release histamine when ingested. These types of reactions are food intolerances, and are different from food allergy in that the immune system is not involved in the reaction. The symptoms, however, can be the same as a food allergy.

Foods that contain the chemical tyramine can trigger headaches. Foods that may have large amounts of tyramine include: fish, chocolate, alcoholic beverages, cheese, soy sauce, sauerkraut and processed meat.

Fermented foods may cause allergy symptoms because they are either rich in histamine or because yeast

or mold is involved in the fermentation process.

Histamine-Rich Foods (including fermented foods):

- Alcoholic beverages, especially beer and wine.
- Anchovies
- Avocados
- Cheeses, especially aged or fermented cheese, such as parmesan, blue and Roquefort.
- Cider and home-made root beer.
- Dried fruits such as apricots, dates, prunes, figs and raisins (you may be able to eat these fruits - without reaction - if the fruit is thoroughly washed).
- Eggplant
- Fermented foods, such as pickled or smoked meats, sauerkraut, etc.
- Mackerel
- Mushrooms
- Processed meats - sausage, hot dogs, salami, etc.
- Sardines
- Smoked fish - herring, sardines, etc.
- Sour cream, sour milk, buttermilk, yogurt - especially if not fresh.
- Soured breads, such as pumpernickel, coffee cakes and other foods made with large amounts of yeast.
- Spinach, tomatoes
- Vinegar or vinegar-containing foods, such as mayonnaise, salad dressing, ketchup, chili sauce, pickles, pickled beets, relishes, olives.
- Yogurt

Histamine-Releasing Foods:

- Alcohol
- Bananas
- Chocolate
- Eggs
- Fish
- Milk
- Papayas
- Pineapple
- Shellfish
- Strawberries
- Tomatoes

Histamine or Scombroid Poisoning;

At times the ingestion of high concentrations of histamine may lead to histamine or scombroid poisoning. Scombroid poisoning most often occurs with the spoilage of certain fish such as: tuna, mackerel, bluefish, mahi-mahi and herring.



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Histamine Intolerance

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Histamine is a chemical which occurs naturally in certain foods. This is also one of the chemicals that is released in the body as part of an allergic reaction, causing the typical 'itching, sneezing, wheezing, swelling' allergy symptoms.

We all have an enzyme (Diamine oxidase) which breaks down any histamine that we absorb from a histamine-containing food, so when we eat a food which contains histamine it does not affect us. However some people have a low level of this enzyme, and when they eat too many histamine-rich foods, they may suffer 'allergy-like' symptoms such as headaches, rashes, itching, diarrhoea and vomiting or abdominal pain. This is called **histamine intolerance**. Some studies have also suggested links between histamine intolerance and urticaria, asthma, eczema and anxiety and panic attacks.

Foods that are particularly high in histamine are:-

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Red wine and beer

Cheese, especially fermented cheeses such as Camembert, Brie, Gruyere, Cheddar, Roquefort and Parmesan.

Brewer's yeast

Shellfish

Most fish, including canned fish

Tomato (especially tinned tomato, tomato puree and ketchup)

Spinach

Chicken

Pork sausage and beef sausage and ham, especially 'dried' (cured) versions.

Chocolate

Fermented soy products (soy sauce)

All fermented vegetables such as sauerkraut.

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It is known that some foods can cause the body to release its own histamine from the cells in the body that contain it. In certain people, eating these foods will also trigger 'allergy-like' symptoms.

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These foods are:-

Uncooked egg white
Shellfish
Strawberries
Tomatoes
Fish
Chocolate
Pineapple
Alcohol

It should be noted that allergy tests for these foods (skin tests or blood tests) will be negative - the cause is histamine *intolerance*, not food *allergy*.

Diagnosis of histamine intolerance is usually made by putting the patient on a low-histamine diet for a couple of weeks, and seeing if their symptoms clear up (see next pages). Some blood tests can be helpful (measuring levels of histamine or the level of the enzyme that normally breaks histamine down), but these are not widely available and are rarely used.

Treatment consists of avoiding histamine-rich foods. Taking a regular antihistamine is often helpful.

Supplements replacing the missing enzyme are becoming available, but it is too soon to know whether they will be of any real help.

Low-histamine diet (courtesy of the International Chronic Urticaria Society)

The following foods are high in histamine and should be avoided for 2-4 weeks. If symptoms improve significantly, reintroduce the avoided foods gradually - you should be able to work out your 'tolerance' level for histamine. If the avoidance does not improve your symptoms, reintroduce all foods as normal.

Meat/Poultry/Fish

- All seafood including shellfish or fish, fresh, frozen, smoked or canned
- Egg (a small quantity in a baked product such as pancakes, muffins, cakes is usually tolerated)
- Processed, smoked and fermented meats such as luncheon meat, sausage, salami, pepperoni
- Chicken

Milk and Milk Products

- Cheese (except for cottage cheese and ricotta cheese which are allowed)
- Cheese products such as processed cheese, cheese slices, cheese spreads
- Yogurt

Note: plain ordinary milk is allowed

Fruits and Vegetables

- Orange, Grapefruit, Lemon, Lime and all other citrus fruits
- Cherries
- Strawberries, Raspberries, Cranberries and all other berries

Histamine Restricted Diet for Control of Urticaria/Angioedema

Do not eat the following food during the 4 week trial elimination period.

Meat/Poultry/Fish

- All seafood including shellfish or fin fish, fresh, frozen, smoked or canned
- Egg (a small quantity in a baked product such as pancakes, muffins, cakes is usually tolerated)
- Processed, smoked and fermented meats such as luncheon meat, sausage, weiner, bologna, salami, pepperoni
- Leftover meat: eat freshly cooked meat ONLY (side note from Jackie—After meat is cooked, the histamine levels increase due to microbial action as the meat sits.)

Milk and Milk Products

- All fermented milk products, including cheese (any milk product that is curdled rather than fermented is allowed, such as cottage cheese, ricotta cheese and panir)
- Cheese products such as processed cheese, cheese slices, cheese spreads
- Yogurt, buttermilk, kefir

Fruits and Vegetables

- Orange
- Grapefruit
- Lemon
- Lime
- Cherries
- Strawberries
- Raspberries
- Cranberries
- Loganberries
- Apricot
- Pineapple
- Dates
- Raisins

- Prunes
- Currants
- Relishes
- Pickles
- Spinach
- Tomatoes
- Ketchup
- Tomato sauces

Food Additives

- Tartrazine and other artificial food colors
- Preservatives, esp. benzoates, sulfites and BHA, BHT

Note: Many medications and vitamin pills contain these additives, especially colors. Ask the pharmacist to recommend additive-free supplements and medications.

Seasonings

- Cinnamon
- Chili powder
- Cloves
- Anise
- Nutmeg
- Curry powder
- Hot paprika (cayenne)

Miscellaneous

- Fermented soy products
- Fermented food
- Tea—herbal or regular
- Chocolate, cocoa, and cola drinks
- Alcohol
- Vinegar and foods containing vinegar such as pickles, relishes, ketchup, and prepared mustard